

15 TH ANNUAL STEVEN GALOVICH MEMORIAL  
STUDENT SYMPOSIUM  
APRIL 10, 2012



ARTWORK BY CANDICE KOSANKE `14



LAKE FOREST  
COLLEGE

To the Lake Forest College Community:

Welcome to the 15<sup>th</sup> Steven Galovich Memorial Student Symposium. This annual event is a highlight of the academic year at Lake Forest College and illustrates the breadth and depth of our intellectual community.

Students from every academic discipline – and at all levels of study – present today the fruits of their research, scholarship, and creative work to audiences of their peers, teachers and mentors, family and friends, and residents of the City of Lake Forest and surrounding North Shore communities.

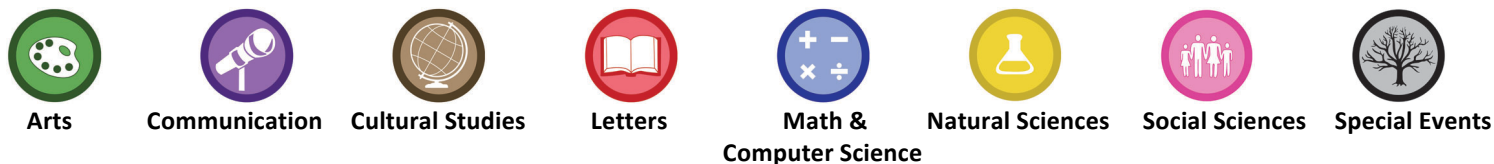
As in past symposia, the 2012 Student Symposium features presentations, discussions, performances, and demonstrations on a range of intriguing issues in the social sciences, natural sciences, mathematics, and the humanities.

In addition to the great work they have done on campus over the past year, students also have interesting things to share about their off-campus learning experiences and research endeavors – from Chicago, Waukegan, and the prairies of McHenry County, to Tunisia, Australia, New Zealand, France, China, India, Morocco, and Malawi.

I look forward to this year's presentations and to seeing you in the audience.

Stephen D. Schutt  
President

To locate those presentations in your areas of interest, please find the appropriate logos from those below:



## 15<sup>th</sup> ANNUAL STEVEN GALOVICH MEMORIAL STUDENT SYMPOSIUM

April 10, 2012

DONNELLEY AND LEE LIBRARY, FIRST FLOOR LOBBY

9:30-3:00      Welcome Center

### ORAL PRESENTATIONS

DONNELLEY AND LEE LIBRARY 203

#### Morning Session 10:00-11:40



##### **Panel 1      Studying the Southern Hemisphere**

Moderator:      Alex Mawyer

10:00-10:40      Maya Beckles  
Hailee Pavisich  
Erika Rodriguez  
Steffany Sobieraj  
*Haere Mai Aoteroa Foresters! (Welcome to New Zealand Foresters!)*

10:40-11:00      Nicole Vachter  
*Change and Challenge: My Time in Australia*

11:00-11:20      Natalie Kukulka  
*How to Modify Your Brain To Become a Kiwi?*

11:20-11:40      Zakea Boeger  
*The Monstrous Pacific: Examining European Encounters with and Representations of Oceania*

#### Afternoon Session 1:00-2:40



##### **Panel 2      World Politics and Global Consumerism**

Moderator:      Carolyn Tuttle

1:00-1:20      Gabriel Gamez  
*Political Islam in Tunisia: the Public Point of View*

1:20-1:40      Alex Gilbert  
*The Varieties of Environmental Management: The Institutional Advantages of Sectors*

1:40-2:00      Miguelangel Gonzalez

2:00-2:20 Caitlin Smith  
*New Perspectives: A Social and Economic Analysis of China's Rural Development*

2:40-3:00 Nicholas Kliminski  
*Global Cereal Packaging, Supply Chains, and Branding in Informal and Formal Settings*

## DONNELLEY AND LEE LIBRARY 205

### Morning Session 10:00-11:50



#### Panel 3 Teaching the Arts

Moderator: James Marquardt

10:00-10:20 Jessica Bilello  
*Making the Text Move: Exploring Various Kinesthetic Tools in the Choral Classroom*

10:20-11:00 Cleo Hehn  
Madeeha Khan  
Stephanie Morales  
*Printmaking: Exploring New Frontiers*



#### Panel 4 Commodities that Changed the World

Moderator: Raj Nadella

11:00-11:30 Kylie Radjenovic  
*Visual Rhetoric: The Diamond Engagement Rings and its Significance in the Modern World*

11:30-11:50 Ryan Vlaar  
*The History, Politics, and Economics of Cotton's Social Ascendancy*

### Afternoon Session 1:00-3:00



#### Panel 5 The Workings of Nature

Moderator: Ananya Das

1:00-1:20 Kosova Kreka  
*Molecular Collisions*

1:20-1:40 Mehmet Ugurbil  
*Chaos*

1:40-2:00 Maria Zawadowicz  
*Measuring excitation probabilities of a two-state system using pulsed NMR*



#### Panel 6 The Proper Rites

Moderator: Holly Swyers

2:00-2:20 Ian Gonfinete  
*Currents in the Science of Love, Attraction and Relationships*

2:20-2:40 Yolanda Mseka  
*Funeral Rituals in Malawi*

2:40-3:00 Thomas Sipp  
*Gnosticism and Heresy: Christology and Pop Culture*

## DONNELLEY AND LEE LIBRARY 221

### Morning Session 10:00-12:00



#### Panel 7 Images of Women

Moderator: Carol Gayle

- 10:20-10:40 Jennifer Steege  
*The Identity of Women in America: Nike Women and Women's Athletics*
- 10:40-11:00 Lenore Carson  
*(In negotiation) Women & Film: A Modern Look Inside Female Roles*
- 11:00-11:20 Rebecca Castaneda  
*Stereotypes of Women in the Media*
- 11:20-11:40 Katie Cato  
*Investigating Gender Ambiguity in Contemporary Photography*
- 11:40-12:00 Samantha Parkison  
*Martyrdom of the Female: Ana Mendieta's Perspectives on Religious Symbolism in a Feminist Context*

### Afternoon Session 1:00-3:00



#### Panel 8 The Rights of Women

Moderator: Siobhan Moroney

- 1:00-1:20 Mary Ashley Federer  
*Women's Representation: The Effect of Gender Stereotypes and Partisan Cues on Female Candidates at Different Levels of Office*
- 1:20-1:40 Anne-Marie Adams  
*Abortion: Bundle of Rights*
- 1:40-2:00 Caroline Tibbetts  
*What's Your Number? A Study on the Omnipresent Sexual Double Standard Within American Society*



#### Panel 9 International Characters

Moderator: Rand Smith

- 2:00-2:20 Mary Nelson  
*The French Presidential Campaign*
- 2:20-2:40 Miguelangel Gonzalez  
*Fidel Castro in Documentary*

## JOHNSON 100



### Morning Session 10:00-12:00

#### Physics Demonstration

Moderator: Scott Schappe

10:00-11:00 David Curie  
Garrett Donnelly  
Huy Hoang  
Kosova Kreka  
Michaelangelo Monterroso  
Matthew Morrison  
Anthony Valsamis  
*Physics Gone Wild*



#### Panel 10 The Culture of Critters

Moderator: Bill Divane

11:00-11:20 Allison Hamel  
*Prairie Values and Valuable Prairie: Commensurating Ecological and Cultural Perspectives*

11:20-11:40 Emily Hampden-Smith  
*International equine medicine: a cultural study*

11:40-12:00 Jennifer Sojka  
*Factors that affect the repeatability of personality in yellow-bellied marmots, *Marmota flaviventris**



### Afternoon Session 1:00-3:00

#### Panel 11 Putting Education to Work

Moderator: Cynthia Hahn

1:00-1:20 Guadalupe Ortega  
*Investing In All Our Children*

1:20-1:40 Noah Harnik  
*Cycling for Affordable Housing*

1:40-2:00 Sarah Spoto  
*Business as Empowerment: The Uncovered Artistry Project and the Positive Power of Business*

2:00-2:20 Aleda "Jordyn" Varga  
*Paris: My Classroom*

2:20-3:00 Eddie Kristin  
Russell Pfeiffer  
Kramer Steffens  
*Symposia: Ancient Greece to LFC*



**Morning Session 10:00-12:00**

**Biology Exhibition**

Moderator: Shubhik DebBurman

10:00-11:00 Jody Buck  
Sydni Cole  
Kristina Johnson  
Sajan Koirala  
Natalie Kukulka  
Ashley Reich  
Anneliese Szutenbach  
*BIO 346*

Roksana Birkos  
Kambrea Farley  
Michael Herriges  
Gregory Jamieson  
Taylor Jones  
Yan-Liang Lin  
Samuel Mercier  
Jacqueline Meyer  
Amanda Morais  
Eddie Moravac  
Jonathan Vinkavich  
Stefan Zaharinov  
Omid Saleh Ziabari  
Amy Ziemis  
*BIO 130*

Kayla Ahlstrand  
Nicolette Yeomans  
*Peer Teachers*



**Panel 12 The Inner Life of Cells and Genes**

Moderator: Matt Kelley

11:00-11:20 Paulius Kuprys  
*DeTRmination of an Essential Component for the Protection of Chromosomal TRmini in a Filamentous Fungus*

11:20-11:40 Annabel Naditz  
*Role of Calcium and Phospholipase A2 in Regulatory Volume Decrease by American Alligator Erythrocytes*

11:40-12:00 Ashley Reich  
*Co-regulation of miRNA biogenesis and pre-mRNA alternative splicing*



### Afternoon Session 1:00-2:00

#### **Panel 13 Genes and Their Vicissitudes**

Moderator: Janet McCracken

1:00-1:20 Saajidha Rizvydeen  
*Genetic Manipulations in a Fungus: Construction of a Telomerase RNA Knockout*

1:20-1:40 Madhavi Senagolage  
*Complex degradation of Parkinson's disease protein,  $\alpha$ -synuclein, by endocytosis*

1:40-2:00 Peter Sullivan  
*Evidence for enzyme dysregulation in L-DOPA treated Parkinsonian rodents*



#### **Panel 14 Contemporary Central and South Asia**

Moderator: Janet McCracken

2:00-2:20 Nicholas Makinster  
*Evolution of the Air War in Afghanistan*

2:20-2:40 Sarah Boyd  
*Holy Cow: The Impact of Studying Abroad in India*

2:40-3:00 Farzeen Tariq  
*Geopolitics of US, Pakistan and Afghanistan*

### JOHNSON 300

#### **Morning Session 10:00-12:00**



#### **Panel 15 Finance and Community Service**

Moderator: Rob Lemke

10:00-10:20 Qi Chen  
Ariana Rincon  
*Loan or Grant ? Microfinance Activities: A Market Approach to Sustainable Community Development*

10:20-10:40 Qi Chen  
Ariana Rincon  
*Expanding Access of Financial Services through Formal and Informal Linkages*

10:40-11:00 Andrew Chipman  
*Microfinance Institutions Serving the Deprived Sector in China, India, Nepal, and Bangladesh*



#### **SAACS Chemistry Demonstration**

Moderator: Elizabeth Fischer

11:00-12:00 Sydni Cole  
Leah Frenette  
Ryan Gabriel  
Jennifer Kurtz



Thandeka Mabuza  
Tom Pospiech  
Maria Zawadowicz  
*Flames, Fumes and Flashes: Students Fired Up About Chemistry*



#### Afternoon Session 1:00-2:40

##### **Panel 16**      **Flora and Fauna**

Moderator:      Kent Grote

- 1:00-1:40      Sebastian Di Clemente  
Victoria Jones  
*The Elizabeth T. Lunn Herbarium of Lake Forest College (1848-present); managing and digitizing historic plant specimens so as to support a plethora of scientific studies - conservation efforts in particular*
- 1:40-2:00      Jordanah Evans  
*Potential of regulatory volume decrease by a P2-like receptor in American alligator erythrocytes*
- 2:00-2:20      Robin Graber  
*Fishy pheromones: The role of novel chemical cues on female mate choice in the guppy*
- 2:20-2:40      Octavio Oliveira De Araujo  
*Exploratory and GIS-Based spatial analysis of rare plant species in the Chicago region*

#### MEYER AUDITORIUM



#### Morning Session 10:00-12:00

##### **Panel 17**      **Environment and Environmentalism**

Moderator:      Kathryn Dohrmann

- 10:00-10:40      Nadia Gronkowski  
Jennifer Kurtz  
Kristina Rodriguez  
Ryan Vlaar  
*The Viability of Sustainability: Lake Forest College's current environmental initiatives as indicators of its potential as a sustainable community*
- 10:40-11:00      Lauren Bailey  
*Saprobic Fungi Associated with the Leaf Litter of Rhamnus cathartica and Quercus Alba*
- 11:00-11:20      Alex Gilbert  
*Environmental Field Studies: Researching while Travelling*
- 11:30-12:00      Sebastian Di Clemente  
Diana Conde Moure  
Laura Stahl  
*The Lake Effect Environmental Archive*



### Afternoon Session 1:00-3:00

#### Panel 18 Environment and Environmentalism (Continued)

Moderator: Naomi Wentworth

1:00-2:30 Tara Busse  
Kaya Cuper  
Sonam Deki  
Lauren Sanford  
Alexandra Zaas  
*Green Building: Trials and Triumphs*

2:30-3:00 Joel Gard  
Alex Gilbert  
Kristina Rodriguez  
*Enhancing Sustainability at Lake Forest College*

### HOTCHKISS HALL 101



### Morning Session 10:00-12:00

#### Panel 19 Ignorance of the Law is No Excuse

Moderator: Chad McCracken

10:00-11:00 Mariana Green  
Mia Taehee Kim  
Ayden Lopez  
Raghav Murali  
Alex Steele  
*A dramatized reading on Legal Obligation*

11:00-11:20 Maya Imhoff  
*The problem of legal authority - The necessity for a normative foundation of the law*

11:20-11:40 Megan Lieberman  
*Death Penalty: Nth Degree Murder*

11:40-12:00 April Arellano  
*Violations of International Law and Humanitarian Law in Afghanistan*

### Afternoon Session 1:20-2:40



#### Panel 20 Learning, Memory, and Teaching

Moderator: Dawn Abt-Perkins

1:20-1:40 Sydni Cole  
*Part-Set Cuing Effects in Object-Location Memory*

1:40-2:00 Erik Giraldo  
*A Student-Designed Computer Programming Project for Lake Forest College*

2:00-2:40 Maya Beckles  
 Jody Buck  
 Cleo Hehn  
 Maria Zawadowicz  
*Peer Training: Guiding, Mentoring, and Evaluating Peers in the Writing Center*

## YOUNG HALL 111

### Morning Session 10:00-11:00



#### Panel 21 The American Presidency

Moderator: Caroline Nordlund

10:00-10:20 Allyson Bain  
*First Ladies from the Campaign Trail to the White House*

10:20-10:40 Peter Lyford  
*Richard Cheney: A Vice President in Control*

10:40-11:00 Cassia Baker  
*Media Image in the Presidency*

### Afternoon Session 1:00-2:20



#### Panel 212 Race and Politics in the Age of Obama

Moderator: Lou Lombardi

1:00-1:20 Chris Way  
*Race and Proposition 8*

1:20-1:40 Fendey Jean-Baptiste  
*The Black-White Wealth Gap within an Educational and Employment Context*

1:40-2:00 Winta Yohannes  
*Arab-American Racial Identification*

2:00-2:20 Katherine Bentley  
*Race and Politics*

## YOUNG HALL 320

### Morning Session 10:00-11:40



#### Panel 22 Writers and Writing

Moderator: Josh Corey

10:00-10:40 Victoria Jones  
 Catherine Masek  
 Jennifer O'Connor  
 Ellen Shipitalo  
*Reflections on the New Nature Writing by New Writers*

10:40-11:00 Brendan Moss

- 11:00-11:20 Kevin Flynn  
*Hurry Up Please It's Time*
- 11:20-11:40 Angela Spoto  
*Comic Book Writing: Script, Art, and All Things in Between*

**Afternoon Session 1:00-2:40**



**Panel 24 Some Reflections on Pop Culture**

Moderator: Rachel Whidden

- 1:00-1:20 Ian Gonfinete  
*The "Hero's Journey" through the Harry Potter Books*
- 1:20-1:40 Sarah Brune  
*Dolce & Gabbana Ads: Why Does Shock Have Value?*
- 1:40-2:00 Rhiannon Miller  
*Kids, Sex, and American Apparel: A Semiotic Analysis of American Apparel's Sexually Driven Advertising for their Line of Children's Apparel*
- 2:00-2:40 Amanda Muledy  
*The Moral and Aesthetic Value of Alice in Chains*

**YOUNG HALL 423**

**Morning Session 10:00-12:00**



**Panel 25 Examining American Public Schools**

Moderator: Devorah Heitner

- 10:00-10:20 Jesus Ayala  
*The Charter School Movement: Our Answer or Problem?*
- 10:20-10:40 Amber Green  
*The Black Student and Academic Achievement: Peeling Away Multiple Layers of Influence*
- 10:40-11:00 Joseph Randol  
*The Fall and Rise of Chicago Public Schools*



**Panel 26 Great Power Politics in the Twenty-first Century**

Moderator: Erin Hoffman

- 11:00-11:20 Elizabeth Ledger  
*Outer Space and the Future of International Relations*
- 11:20-11:40 Cynthia Sandoval  
*The Future of Peace: Great Power Politics in the Twenty-first Century*
- 11:40-12:00 Rachiny Samek  
*Islam: the Question of Democracy in Turkey and Iraq*



### Afternoon Session 1:00-2:20

#### Panel 27 Issues in Applied Economics

Moderator: Les Dlabay

- 1:00-1:20 Joel Gard  
*Pay and Performance in the National Hockey League: Testing for the incentive effects of free agency in the Salary Cap era*
- 1:20-1:40 Utsha Karki  
*To Lend or Not to Lend: An Analysis of Mortgage Instruments and Borrower Characteristics*
- 1:40-2:00 Nikita Kotecha  
*Diversity of Microfinance Models in Pune, India*
- 2:00-2:20 Minxu Zhang  
*Public policy, contracts and organic farming*

### JIM KENNEY '59 TV LOUNGE (SKYBOX)



#### 10:00-12:00

#### Theater Performances

Moderator: Richard Pettengill

- 10:00-11:30 Haider Albassam  
Rakahn Al-Mutawa  
Emma Douglass  
Matthew Evans  
Tyler Haberman  
Elizabeth Hyzy  
Ashley Joseph  
Samantha Kaser  
Ayden Lopez  
Johnathan Vinkavich  
Maeve Whalen  
*THTR 226 Presents: An Improvisation Showcase by "Kickass Book Club"*
- 11:30-12:00 Nicole Vachter  
*Garrick Players Present a 24-Hour Playwright Festival*

### DURAND ART INSTITUTE 208



#### Morning Session 10:40-12:00

#### Panel 28 Moments in World History

Moderator: Fatima Imam

- 10:40-11:00 Qiong Wu  
*The crusades as just wars and as pilgrimages*
- 11:00-11:20 James Dunnigan

11:20-11:40 Sejdou Karmash  
*Road to Modern Turkey*

11:40-12:00 Nicholas Makinster  
*A Losing Hand in the Great Game: British Military and Diplomatic Involvement in Afghanistan 1837-1842*

## **DURAND ART INSTITUTE 209**

### **Morning Session 10:00-12:00**



#### **Panel 29      *Collage Readings***

Moderator: Lois Barr

10:00-11:00 Sandra Aguilera  
Akua Agyei  
Antonio Avila  
Divya Banerji  
Lois Barr  
Katherine Bjelde  
Miguelangel Gonzalez  
Clayton Gray  
Tobi Greenwald  
Cynthia Hahn  
Jana Jengstler  
Yipeng Hu  
Jee Kim  
Kevin Lim  
Thandeka Mabuza  
Elisabeth Pattavina  
Hope Snediker  
Rose Twagirumukiza



#### **Panel 30      *Student Artist Panel***

Moderator: Tracy Marie Taylor

11:00-12:00 Tzi-Ching Lin  
Katlin Sandvik  
Caroline Stearns  
*Student Artist Panel Discussion*

## **DURAND ART INSTITUTE FIRST FLOOR**



3:00-3:30      **Jazz Ensemble**

**Ice Cream Social** - *Sponsored by Student Government*

**SONNENSCHN, ALBRIGHT, AND DEERPATH ART GALLERIES  
DURAND ART INSTITUTE AND DEERPATH HALL**



Moderator: Tracy Marie Taylor

3:30-5:00 **Student Art Exhibit**

**MOHR CAFÉ AND STAGE**



4:00-5:30 **Lambda Chi Alpha Quiz Bowl**

Chris Banville  
J. J. Conoscenti, President  
Dillon Gilbow  
Ivaylo Valchev

**CLOSING EVENT**



**MOHR STUDENT CENTER and LAKE FOREST BEACH**

**TOMS One Day without Shoes Walk to the Beach**  
**Alpha Phi Omega, Ashley Reich, President**

6:45	Meet at Mohr Student Center to sign waivers for those who are walking shoeless
7:00	Begin the walk to the beach
7:15	Arrive at the beach/campfire
7:25-7:35	Closing remarks by James Marquardt
7:35	S'mores

**POSTER PRESENTATIONS**



**DURAND ART INSTITUTE ATRIUM**

1:00-2:30

Amanda Allred  
*Does telomere length change during sexual development?*

April Arellano  
Alexandra Beer  
Mia Taehee Kim  
*International Criminal Court*

Jody Buck  
Lani Leong  
*Will sea slugs recover after surgical injury?*

Katrina Campbell  
*Identifying specific amino acids in Alpha-synuclein that control its toxic properties*

Austin Erney  
*Identifying Phylogenetic Placement of Laccaria*

Leah Frenette  
*Computational methods in selective synthesis of preferred products using polymerization catalysts*

Ryan Gabriel  
*Sonogashira Cross-Coupling of Nitrogen Containing Substrates*

Dillon Gilbow  
*Modifications of Citrate Uptake by Ionophore Addition*

Amy Gonzalez  
Jimena Resendiz  
*Dying Along the Way: Stable Isotope Analysis of Pre-Columbian Human Remains from the Atacama Desert*

Tyler Hauer  
*Identifying the First Telomerase RNA in a Filamentous Fungus*

Natalie Kukulka  
Ryan Vlaar  
*Decrypting Parkinson's Disease: Are multiple mutants worse than one?*

Jennifer Kurtz  
*100 pptv level detection of hazardous air pollutants using SPME (solid phase microextraction) fibers with GC-MS detection*

Billy Levinson  
*Fungi as a Novel Source for Biofuels*

Thandeka Mabuza  
*Suzuki Coupling of  $sp^3$  Carbon Centers*

Erika Rodriguez  
*Agricultural Processes and Perspectives at Lake Forest College, Within the Context of the Societal Movement towards Sustainable Food*

Ada Sandoval  
*Dietary Reconstruction of Pleistocene Megafauna*

Kaila Stephens  
*Knowledge: A Key to Supplement Adherence in Pediatric Inflammatory Bowel Disease*



**PARTICIPANTS AND ABSTRACTS**  
(Coauthored and Group Projects at the end.)

Arranged alphabetically by student last name, followed by presentations involving more than one student, arranged by first student's last name alphabetically within presentation.

**Anne-Marie Adams '12**, Economics

*Abortion: Bundle of Rights*

Individual rights and liberties are very important in the United States. There are a number of potential rights holders in abortion cases, so it is essential to determine whether the law should protect a woman's right to make decisions regarding her body or a fetus's right to life. Since it is not obvious which one dominates, both pro-life and pro-choice arguments can seem quite convincing and compelling. This paper analyzes abortion in terms of property rights, using an economic concept known as a "bundle of sticks."

*Faculty Sponsor: Siobhan Moroney*

**Amanda Allred '14**, Neuroscience

*Does telomere length change during sexual development?*

Telomeres protect chromosome ends and prevent genetic loss during DNA replication. Little is known about the length of telomeres in cells undergoing meiosis, but previous studies show that telomeres appear longer. We used *Aspergillus nidulans*, due to its tightly regulated telomeres in all developed cell types, to examine whether cells undergoing meiosis will have longer telomeres. By collecting hyphae and immature sexual cells and amplifying their DNA, we can compare their telomere lengths. Telomere length is found to be the same in hyphae and immature sex cells. *A. nidulans* may have an unknown mechanism for its strictly regulated telomere lengths.

*Faculty Sponsor: Karen Kirk*

**April Arellano**

*Violations of International Law and Humanitarian Law in Afghanistan*

Throughout Afghanistan's history, there have been a grave number of violations of international humanitarian law. Contributing factors include past Afghan regimes, terrorist organizations and a history of war with foreign entities. Political instability and the division with the society also make it very difficult to transition into peaceful rule of law in Afghanistan. Even though Afghanistan has signed and ratified treaties concerning protection of human rights, violations have occurred with little intervention. The Bonn agreement in 2001 and the adoption of the new Afghan constitution in 2004 are signs of progress, however.

*Faculty Sponsor: James Marquardt*

**Jesus Ayala '14**

*The Charter School Movement: Our Answer or Problem?*

Mainstream media, at home and abroad, now recognize America's education crisis. This has spawned a movement to "save" American education through charter schools, I explore the techniques and tactics charter schools use to draw support from low income and minority communities. Inspiring speeches and colorful brochures promising a bright future convince parents to enroll their children in charter schools. The data is questionable, however. I critique the pro-reform arguments of charter schools from a communication studies perspective. A YouTube video I made over the summer on this topic can be found at the following address: <http://www.youtube.com/watch?v=5JuQc-zUklk>

*Faculty Sponsor: Devorah Heitner*

**Lauren Bailey '12, Biology**

*Saprobic Fungi Associated with the Leaf Litter of Rhamnus cathartica and Quercus Alba*

Leaves of the invasive European buckthorn, *Rhamnus cathartica*, rapidly decompose, typically leaving buckthorn-invaded areas with exposed mineral soils and sparse litter layers. The contrast between buckthorn soils and organic humus soils in native stands of *Quercus alba* likely results in a shift of the microbial community composition. These shifts in metabolic processes are likely reflected in the composition of leaf litter fungal communities. We explored this hypothesis, using a combination of PCR, cloning, RFLP analysis and Sanger sequencing to describe the fungal communities associated with *R. cathartica* and *Q. Alba* leaf litter.

*Faculty Sponsor: Lynn Westley*

**Allyson Bain '12, Communication**

*First Ladies from the Campaign Trail to the White House*

No mention of her is made in the U.S. Constitution, but the First Lady is an institution with symbolic power. In the early years of the Republic, first ladies served as ceremonial hostesses. By comparison, modern first ladies, such as Hillary Clinton, Laura Bush, and Michelle Obama, have become presidential policy advisors. While each modern first lady has taken a different approach to her role, media coverage and public opinion have affected her transition from campaign trail to White House. Vocal or passive, however, a new model of the first lady is evident: the Mom-in-Chief.

*Faculty Sponsor: Caroline Nordlund*

**Cassia Baker '14, Art History, Communication**

*Media Image in the Presidency*

What separates a president like John F. Kennedy, who enjoyed a successful media image, from one like Richard Nixon, whose public persona faltered under scrutiny? Though Nixon's image was dealt a devastating blow by the damaging outcome of the "Watergate" scandal, it had long been plagued by Nixon's inability to cultivate a positive press relationship and media image. The media plays a pivotal role in the way the public perceives and remembers the President. Thus presidents with successful media images are those who are able to achieve a positive relationship with the press.

*Faculty Sponsor: Caroline Nordlund*

**Katherine Bentley '15, Politics**

*Race and Politics*

In the 2008 Democratic primary election, Hillary Clinton was more pointedly defined by her gender than Barack Obama was by his race. The discriminatory treatment Hillary Clinton received in the media parallels discrimination of female candidates such as Nancy Pelosi, Sarah Palin, and Michele Bachmann. All these candidates' coverage focused on their appearance, their husbands, and their personalities far more than did that of their male competitors'. Hillary Clinton's case was particularly stark, however, because Barack Obama received unprecedented positive media. This study hypothesizes that it is more socially acceptable to discriminate on the bases of sex than on race.

*Faculty Sponsor: Caroline Nordlund*

**Jessica Bilello '14, English, Spanish**

*Making the Text Move: Exploring Various Kinesthetic Tools in the Choral Classroom*

Teaching the sounds of language can be very difficult for the choral music educator. Choral music educators may be better able to aide students in executing the sounds of languages by supplementing the International Phonetic Alphabet and rote repetition with a kinesthetic tool. The systems that are in use in the Deaf and Hard of Hearing communities, Cued Speech, Visual Phonics, the French Borel-Maisonny method, and the German Phonembestimmte Manual system aim to communicate the sounds of language through a series of hand gestures. A composite system, derived in part from these systems, will be valuable in the music classroom.

*Faculty Sponsor: Emilie Amrein*

**Zakea Boeger '12**, English (Writing), Sociology and Anthropology

*The Monstrous Pacific: Examining European Encounters with and Representations of Oceania*

I examine how European encounters with the Pacific created 'the monstrous' as a category in representations of the Pacific islands. I will focus on its origins in the Pacific Islands, looking at how monstrosity appeared in nature, was subsequently conceived, and then manifested in 19<sup>th</sup>-century European culture and beyond. My analysis includes texts from the 18th century to the near present, with a special focus on Captain Cook's journals and the reports of other naturalists in the so-called "Age of Discovery," Darwin's Beagle journals, and 19<sup>th</sup>-century novels such as H.G. Wells' *Island of Dr. Moreau*, Melville's *Typee*, and Butler's *Erewhon*.

*Faculty Sponsor: Alex Mawyer*

**Sarah Boyd '13**, Philosophy, Religion

*Holy Cow: The Impact of Studying Abroad in India*

After studying abroad in India this year, I realized what I learned had little to do with the classes I took there. You might ask, "But doesn't that defeat the purpose of studying abroad?" I argue it absolutely does not. When I made my decision to study abroad last year, several people in my life wondered why I would want to study in India – a developing third world country – instead of somewhere "cool" like France or Germany. The lessons I learned outside the classroom in India have profoundly influenced me, which is "cooler" than anything I could have hoped for.

*Faculty Sponsor: Janet Miller*

**Sarah Brune '13**, Communication, Politics

*Dolce & Gabbana Ads: Why Does Shock Have Value?*

The clothing company, Dolce & Gabbana, has been using shock advertising for years to stay a step ahead of other companies and increase sales. While this advertising often crosses the border of what is considered offensive, buyers still flock to the brand, and international controversy does not seem to hinder the company's ability to be successful. This presentation explores why this method of shock advertising works and what makes the D&G ads so controversial to begin with.

*Faculty Sponsor: Rachel Whidden*

**Katrina Campbell '14**, Neuroscience

*Identifying specific amino acids in Alpha-synuclein that control its toxic properties*

Parkinson's disease (PD) is a neurodegenerative disease in which neurons in the midbrain die. A PD hallmark is the aggregation of a protein called alpha-synuclein in these neurons. My research involved testing four specific amino acids recently implicated to be important in alpha-synuclein's PD-related properties. These amino acids were mutated, and I then studied each mutant's ability to alter alpha-synuclein's ability to associate with phospholipid membranes, aggregate, accumulate, and be toxic. I found that all four amino acids are important for either phospholipid membrane association, aggregation or both. Future work will determine the amino acids' importance in accumulation and toxicity.

*Faculty Sponsor: Shubhik DebBurman*

**Lenore Carson '12**, Communication

(In negotiation) *Women & Film: A Modern Look Inside Female Roles*

I examine four Hollywood films of the past half-century to uncover how each represents women and feminism. I begin with the 1970's, the decade in which feminist arguments emerged as a critical theory in academia, and end in our current decade, often referred to as "post" feminist. My thesis lies at the intersection of film studies and feminist theory, and I seek to build upon the academic discussions regarding popular culture, ideology, hegemony and "post" feminism. I demonstrate the injustice that Hollywood has done to women in its poor representations of women and feminism.

*Faculty Sponsor: Elizabeth Benacka*

**Rebecca Castaneda '14**, History, Communication

*Stereotypes of Women in the Media*

Historically, the media has objectified women, and it is a widely-held misconception that this is a thing of the past. My project compares two covers of *Vanity Fair*—one from 1955 and one from 2006—as well as advertisements from the 1950s and the present. Putting each of these images into historical context and applying visual communication theories, I conclude that although the stereotypes of women may have shifted slightly over time, limited roles for and objectification of women are still very much the case.

*Faculty Sponsor: Elizabeth Benacka*

**Katie Cato '12**, Art History, Communication

*Investigating Gender Ambiguity in Contemporary Photography*

Is gender a fixed concept? Is gender defined by one's body? The more gender is studied the less we understand it. In this project I investigate photography as a medium for exploring gender ambiguity and gender fluidity. Specifically I analyze photographs by Rebecca Swan, Del LaGrace Volcano, and Collier Schorr to show how their work creates a rhetorical argument for how identity can be visually represented outside of the hegemonic gender dichotomy. Through this analysis I demonstrate how these photographs respond to contemporary theories on gender and how the medium of photography works to structure an argument.

*Faculty Sponsor: Linda Horwitz*

**Andrew Chipman '12**, Asian Studies

*Microfinance Institutions Serving the Deprived Sector in China, India, Nepal, and Bangladesh*

People in extreme poverty face daily challenges related to water, food, health care, education, housing, and financial services. Microfinance institutions often encounter various government regulations which can affect their ability to offer innovative financial services for the deprived sector (extremely poor consumers). This study considers the regulatory situation and the innovation environment for microfinance products in China, India, Nepal, and Bangladesh. Recommendations are offered for improved deprived-sector funding of microfinance activities in these countries.

*Faculty Sponsor: Les Dlabay*

**Sydni Cole '12**, Neuroscience

*Part-Set Cuing Effects in Object-Location Memory*

Part-set cuing inhibition refers to the counterintuitive finding that providing hints (cues) during recall tasks can hurt memory performance. The current set of experiments was designed to test whether part-set cuing inhibition occurs in spatial memory. Across three experiments, participants viewed videos of snap circuit object assemblies and were asked to reconstruct the final object or remember sequential details about its assembly. Results indicated no significant effect of cues on reconstruction performance; whereas, consistent part-set cues actually facilitated the retention of sequence information. These findings thus expand the part-set cuing literature to the previously unexplored arena of spatial memory.

*Faculty Sponsor: Matthew Kelley*

**James Dunnigan '12**, History

*Christian Attitudes Towards Violence and Peace in the Early Middle Ages*

Understanding early Christian attitudes towards violence in the Early Middle Ages can allow one to see its evolution over the first few centuries leading up to the First Crusade. Using primary sources, of both Christian and Muslim origin, one is able to observe the cultural and political attitudes on Christian violence. The aim of this paper is to demonstrate that early Christian thoughts toward acts of violence and peace were constantly changing to match ever-shifting church policy, as well as real world events that threatened the stability of Christian life in the Early Middle Ages.

*Faculty Sponsor: Jilana Ordman*

**Austin Erney '13, Biology**

*Identifying Phylogenetic Placement of Laccaria*

Many fungi form symbiotic relationships with plants. Around 90 percent of existing fungi are unknown to science, however. The research conducted during my mini-internship used phylogenetic analysis of molecular data to address taxonomic placement of unknown samples of Laccaria species. Molecular analysis was run on two genes, ITS and LSU. A phylogenetic tree was constructed on the ITS gene, which helped conclude that even though the mushroom samples were from the same genus in the same place, they were different species. This analysis of the phylogenetic tree gives insight to the evolution, ecology, diversity, and vital symbiotic relationships of Laccaria.

*Faculty Sponsor: Lynn Westley*

**Jordanah Evans '12, Biology**

*Potential of regulatory volume decrease by a p2-like receptor in American alligator erythrocytes*

Volume regulation by animal cells is crucial for the maintenance of homeostasis. This process is especially significant for cells exposed to hypotonic conditions, which results in an increase in cell volume. Cells respond with a compensatory mechanism known as regulatory volume decrease (RVD). This process is characterized by the efflux of specific solutes and water, thereby reducing cell volume. This study examined the role of P2 receptors during RVD in alligator red blood cells. Our results indicate that the activation of a P2X receptor with extracellular ATP triggers a chain of events leading to K<sup>+</sup> efflux and recovery of volume.

*Faculty Sponsor: Doug Light*

**Kevin Flynn '14, English, Creative Writing**

*Hurry Up Please It's Time*

This presentation examines the Kantian perception of beauty and the sublime, as well as the Dionysian and Apollonian characteristics of artwork described by Nietzsche, by application to "The Wasteland" by T.S. Eliot. It attempts to explain the techniques used in the poem to invoke its singular effect on the reader, using these frameworks as the basis of the analysis.

*Faculty Sponsor: Janet McCracken*

**Mary Ashley Federer '12, Politics**

*Women's Representation: The Effect of Gender Stereotypes and Partisan Cues on Female Candidates at Different Levels of Office*

Currently, there are only six women governors in the U.S. and only 16.8 percent of our Congressional representatives are women. This gender gap contains a confusing partisan gap. Sixty-eight percent of women Representatives and 71 percent of women U.S. Senators are Democrats, but 66 percent of women governors are Republicans. A number of theories have been proposed to explain these phenomena; however, these theories fail to explain the partisan shift in favor of Republican women at the gubernatorial level. I explain this shift by studying how gender stereotyping intersects with partisan cues and type of political office.

*Faculty Sponsor: Caroline Nordlund*

**Leah Frenette '12, Chemistry and French**

*Computational methods in selective synthesis of preferred products using polymerization catalysts*

Specialty plastics are produced in a reaction that requires the use of transition-metal catalysts with specific structures. Richard Jordan (University of Chicago) explores the synthesis of these catalysts used in polymerization reactions. Jordan's laboratory synthesis results in a racemic mixture. Only one component of the mixture has the preferred structure and by using temporary ligands we can alter the synthesis to selectively form only the desired structure. We use computational modeling to understand which ligands would best facilitate this selective synthesis. This poster reports the use of modeling as a tool to predict product ratios for zirconocene catalysts.

*Faculty Sponsor: Dawn Wiser*

**Ryan Gabriel '12, Chemistry**

*Sonogashira Cross-Coupling of Nitrogen Containing Substrates*

The Sonogashira reaction is one example of palladium catalyzed cross-coupling reactions resulting in the formation of carbon-carbon bonds. Carbon-carbon bond formation is crucial for modern chemical synthesis. This investigation examines a possible alternate preparative method for the synthesis of kynuramines using the Sonogashira reaction. Kynuramines are monoamine oxidase inhibitors and are critical ingredients in some pharmaceuticals. The coupling being examined is between substituted aryl iodides containing various substituents, most important of which contain nitrogen, and ethynylamines containing various "blocking" structures. The reaction parameters as well as substituents and blocking group alterations show significant effects on the coupling process.

*Faculty Sponsor: William Martin*

**Gabriel Gamez '13, History**

*Political Islam in Tunisia: the Public Point of View*

This short video is a presentation of the Independent Study project I completed during my fall 2011 semester in Tunisia. The presentation consists of three parts. The first part gives a brief introduction of the changes the people in Tunisia have recently faced and the role political Islam might play in the new government, from the start of the Arab Spring through the election results. The second part includes pictures, video clips, and audio of people I interviewed. The third offers my conclusions and discusses the role Tunisians think political Islam will play in their new government.

*Faculty Sponsor: Janet Miller*

**Joel Gard '12, Economics**

*Pay and Performance in the National Hockey League: Testing for the incentive effects of free agency in the Salary Cap era*

The principal-agent relationship in professional sports has been widely studied. Popular belief states players often increase their productivity in the season preceding free agency (ex ante shirking) before decreasing their productivity (ex post shirking), after signing a guaranteed money contract. My study examines this issue by comparing performance in the years before and after free agency against a player's career statistics to test the popular theory. Unlike previous work on the NHL, my more accurate calculation of a player's Marginal Revenue Product (MRP) can better ascertain whether his actual MRP coalesces with his expected MRP.

*Faculty Sponsor: Robert Baade*

**Alex Gilbert '12, Environmental Studies and International Relations**

*The Varieties of Environmental Management: The Institutional Advantages of Sectors*

Globally, the comparative institutional structural advantages of actors within a specific sector of society (business, nonprofit, government, academia, and civil society) determine their capability to conceptualize and implement effective environmental management. In Morocco, soil erosion compromised a sustainable complex water management system. The response of civil society groups proved inadequate, and the government initiated a reforestation program. Based on my senior thesis in environmental studies and international relations, this presentation highlights field research I conducted during my 2011 "Semester-at-Sea" off-campus study program and while I backpacked in Australia.

*Faculty Sponsor: James Marquardt*

**Alex Gilbert '12, Environmental Studies and International Relations**

*Environmental Field Studies: Researching while Travelling*

In the fall of 2011, I embarked on the Semester-at-Sea study abroad program. I travelled to twelve different countries and took intensive, world focused coursework. I paid close attention to environmental issues I encountered at various ports-of-call and developed strong field research skills, which I put to use as I conducted field research for my environmental studies senior

thesis. This research also led me to meet many interesting people and taught me how to see things in ways I had never previously imagined, which increased my understanding of perspectives on the global environment.

*Faculty Sponsor: Steve Tammelleo*

**Dillon Gilbow '13, Chemistry**

*Modifications of Citrate Uptake by Ionophore Addition*

One of the key intermediates of the citric acid cycle and building blocks of lipid, Citrate is transported for the extracellular environment into the cytoplasm of a cell through the Plasma Membrane Citrate Transporter (PMCT) protein. We hypothesized that ionophores such as Valinomycin and Carbonyl cyanide 3-chlorophenylhydrazone (CCCP) alter the functionality of PMCT. We find that both ionophores drastically change the uptake of citrate by PMCT, but in different ways. Valinomycin increases the uptake of citrate by PMCT while CCCP decreases the uptake of citrate. These results suggest that ion concentrations have a dramatic effect on PMCT's citrate uptake.

*Faculty Sponsor: Shubhik DebBurman*

**Eric Giraldo '12, Computer Science**

*A Student-Designed Computer Programming Project for Lake Forest College*

In this presentation, I describe how my transformed theoretical knowledge of computer science enabled me to address a practical problem—a web-based tutor scheduling system for both the Writing Center and the Math Resource Center. Different types of technologies were integrated in the development of the scheduling applications. While HTML, CSS, and JQuery comprise the front-end of the systems, PHP, MySQL, Linux, and Apache provide the scheduling logic or “the brain” of the program. I used different forms of knowledge to develop both the front-end and the “brains” of the system so that it would be highly functional and user-friendly.

*Faculty Sponsor: Connie Corso*

**Ian Gonfinete '12, International Relations**

*Currents in the Science of Love, Attraction and Relationships*

Noting that debates about the nature of love and its consequences motivate practices in online matchmaking, I examine love as a site of friction in contemporary theory at the intersection of cognitive science, sociology, psychology, and philosophy. I discuss Helen Fisher's Personality Model of Love (Builder, Director, Negotiator, Explorer); Robert Sternberg's Triangular Theory of Love and Relationships; the Halo Effect in personality traits; Mimetic Rivalry and Love Triangles; and the moral dilemma one faces when one does not requite love.

*Faculty Sponsor: Alex Mawyer*

**Ian Gonfinete '12, International Relations**

*The "Hero's Journey" through the Harry Potter books*

Developed by Joseph Campbell, the Hero's Journey is a model present in countless myths and stories throughout the world. Whether the tale is about Apollo, Buddha, *Star Wars* or *The Matrix*, the same pattern of events follows: a hero ventures into a world of supernatural wonder where, after a series of tests, he wins a decisive victory. The hero finally returns to share his power to with his peers. I describe all the stages of this theory using the Harry Potter books as an example, further illustrating it with other legends and films.

*Faculty Sponsor: Janet McCracken*

**Miguelangel Gonzalez '12, History and Latin American Studies**

*A Necessary Evil: The Paradoxes of Tourism and Socialism in Contemporary Cuba*

The sudden collapse of the Soviet bloc in the early 90s devastated the Cuban economy. As a result, the Cuban government adopted aggressive economic adjustment programs during this time of crisis, which was known as the "the Special Period in time of peace." My presentation is a review of the tourist industry in Cuba from the 'Special Period' to the present. It focuses

on 'jineterismo' (prostitution) and foreign exchange as primary examples of the cultural paradoxes between socialism and tourism. In addition, it examines how the legacy of tourism in Cuba has affected the ideologies of the Cuban Revolution.

*Faculty Sponsor: Steve Tammelleo*

**Miguelangel Gonzalez '12**, History and Latin American Studies

*Fidel Castro in Documentary*

This presentation analyzes how Fidel Castro is portrayed in documentary films. The study concentrates on the arguments, style, images, and limitations of these narratives. It attempts to interpret the historical memory of Castro and the legacy of the Cuban Revolution. The research concentrates on three documentaries: *Fidel Castro*; *Fidel: The Untold Story*; and *Fidel!*

*Faculty Sponsor: Dan LeMahieu*

**Robin Graber '12**, Biology and Environmental Studies

*Fishy pheromones: The role of novel chemical cues on female mate choice in the guppy*

Vision is known to play an important role in female mate choice in the guppy (*Poecilia reticulata*), but little is known of the extent to which other sensory modalities are involved. Previous studies of guppies indicate that male mate choice and female conspecific recognition is influenced by chemical cues; however, the role of chemical cues in female mate choice is unclear. Here I investigate the effects of male chemical cues on females' preference for novel males. My results indicate male chemical cues play a minimal role in the female guppy's preference for novel males.

*Faculty Sponsor: Anne Houde*

**Amber Green '12**, Psychology

*The Black Student and Academic Achievement: Peeling Away Multiple Layers of Influence*

A long history of mistreatment in America has scarred the Black community and affected the educational outlook of Black students. Black students, especially males, experience great difficulty in academic settings. Knowledge and appreciation of ethnic identity has a positive effect on the success of Black students, however. Thus, having a positive view of being Black is beneficial for Black students in the academic environment. I explain how the cooperation of the individual student, family, peers, school and community, along with the resources within the Black community, are essential components to improving the academic achievement of Black students.

*Faculty Sponsor: Susan Long*

**Allison Hamel '12**, Biology and Sociology and Anthropology

*Prairie Values and Valuable Prairie: Commensurating Ecological and Cultural Perspectives*

I examine both the ecological and the cultural implications of prairie restoration by assessing ants as potential indicators of prairie ecology and people as the directors of prairie restoration. To determine the ecological impacts of prairie restoration efforts, I compared ant species richness and composition across eighteen dry tall-grass prairie sites in McHenry County, Illinois using a space-for-time substitution. I observed a general increase in ant species richness as prairie restoration site age increased. To address the anthropological factors of prairie restoration, I interviewed people involved in the restoration process, which uncovered intriguing patterns in the ways people conceptualize prairie.

*Faculty Sponsors: Sean Menke and Alexander Mawyer*

**Emily Hampden-Smith '13**, Biology and Spanish

*International equine medicine: a cultural study*

My research explores the cultural differences in the practices of equine veterinarians in the United States and Argentina. Differences between the two countries include reliance on sport horses for monetary support in Argentina compared to pets in the US. The regulations for treatment of horses are more relaxed in Argentina than in the US. Also, treatment in Argentina is used mainly to increase horses' value; whereas, in the US treatment is geared toward the comfort of the horse. These differences can be applied to the treatment of animals in other situations in a developed vs. a developing country.



*Faculty Sponsor: Sean Menke*

**Noah Harnik**, Psychology  
*Cycling for Affordable Housing*

In the summer of 2011, I cycled across the United States from Providence, Rhode Island to Half Moon Bay, California. While the trip had an adventurous aspect to it, the real reason behind it was to support affordable housing. The trip was sponsored by a non-profit organization called Bike & Build. In order to participate, each participant raises \$4,000 dollars, which is donated to affordable housing organizations across the country. Along the way each group joined forces with affordable housing organizations to help build houses. I discuss the process of raising funds and the affordable housing curriculum, and share stories about the trip.

*Faculty Sponsor: Naomi Wentworth*

**Tyler Hauer '12**, Biology  
*Identifying the First Telomerase RNA in a Filamentous Fungus*

Linear chromosomal ends are protected by telomeres, which are synthesized by the enzyme telomerase. We have identified for the first time the telomerase RNA (TR) in the filamentous fungus *Aspergillus oryzae*. Experiments utilizing a type of polymerase chain reaction showed that one candidate sequence was strongly transcribed whereas all other 20 candidates that we identified in the genome were not. Using similar methods we then determined where the ends of this RNA were situated. We believe that we have found the TR as its length and structure are very similar to the TRs of other organisms.

*Faculty Sponsor: Karen Kirk*

**Maya Imhoff '12**, Philosophy  
*The problem of legal authority - The necessity for a normative foundation of the law*

What is legal authority? Where does it come from, and how can we account for it? I investigate the nature of legal authority. I do not concern myself with a particular legal system but try instead to identify the nature and properties inherent to the concept of legal authority. Since legal systems are normative systems, it necessarily follows that the nature of (initial) legal authority must be sought within the normative sphere. I demonstrate that descriptive, empirical approaches to the question do not suffice.

*Faculty Sponsor: Chad McCracken*

**Fendey Jean-Baptiste '14**, Politics  
*The Black-White Wealth Gap within an Educational and Employment Context*

To fully comprehend the black-white wealth gap, one must examine the discrepancies in college graduation rates and employment discrimination. One must understand why black students are not graduating colleges at rates comparable to those of white students. In addition, a study of employment discrimination shows the hardships black graduates face in the labor market.

*Faculty Sponsor: Caroline Nordlund*

**Utsha Karki '12**, Economics and Mathematics  
*To Lend or Not to Lend: An Analysis of Mortgage Instruments and Borrower Characteristics*

The Federal Reserve carries out its Survey on Consumer Finances (SCF) every three years; when it asks approximately 4000 households questions about income, wealth and financial status. Using the 2007 SCF, I look at the relationship between borrower demographic characteristics, the borrower's financial situation such as employment, income, net worth, credit card balance, and the borrower's real estate holdings, including mortgages. The main result of the research considers the extent to which various mortgage products infiltrated the market. Specifically, despite claims made by the popular press, little evidence is found that "bad" mortgage instruments were targeted at minority groups.

*Faculty Sponsor: Robert Lemke*

**Sejoud Karmash '12**, Area Studies, International Relations

*Road to Modern Turkey*

Turkey is a product of the Ottoman Empire, formed by the collapse of the empire after WWI. Mustafa Kemal Ataturk, the founder and father of the Republic of Turkey, reformed almost every single Ottoman law. The process of secularization began, which abolished the caliphate and the sultanate, changed the script from Arabic to Latin, and most importantly, began friendly relations with the western world. In just the last few years, however, some of Ataturk's reforms have been changed. Scholars have argued that it is a return to Ottoman times, what some call "neo-ottomanism."

*Faculty Sponsor: Ghada Talhami*

**Nicholas Kliminski '14**, Education and History

*Global Cereal Packaging, Supply Chains, and Branding in Informal and Formal Settings*

Do you enjoy eating cereal? Even if you are an avid cereal consumer, you probably haven't heard of most of the brands distributed around the world. While various geographic, economic, and political factors influence cereal packaging and distribution, cultural and social aspects are most prominent. Formal and informal distribution channels range from street pushcarts to global supermarkets. Brand loyalty, advertising, and cultural adaptations affect daily shopping decisions. One can simply analyze Kellogg's Zucaritas, Nestle Chocapic, or Bokomo Rice Crunchies to gain insight into global culture and economic activity.

*Faculty Sponsor: Les Dlabay*

**Nikita Kotecha '13**, Business

*Diversity of Microfinance Models in Pune, India*

An extensive portion of the more than one billion people in India makes up the deprived sector. An estimated 135 million people in the country do not have access to banking services. Microfinance institutions (MFIs) exist to serve these people. Commercialization of microfinance and the Andhra Pradesh crisis have created concerns about the mission drift of MFIs. In Pune, India, varied types of microfinance models are present in hopes of offering financial services that better serve the poor.

*Faculty Sponsor: Les Dlabay*

**Kosova Kreka '12**, Economics and Physics

*Molecular Collisions*

Electron-molecule and electron-atom collisions are common in technology and the natural world. Some examples include: plasma processing of semi-conductors, fluorescent lamps, plasma screen televisions, and the aurora. In addition to furthering our understanding of these phenomena, the study of such collisions increases our knowledge of atomic and molecular structures. In our experiment, we use a target of supersonically-cooled molecules to better understand the collision process. The primary focus of our present work is to determine the spatial, temperature, and time characteristics of our molecular beam in order to better understand the dynamics of our experiment.

*Faculty Sponsor: Scott Schappe*

**Natalie Kukulka '13**, Neuroscience and Biology

*How to Modify Your Brain to Become a Kiwi?*

Aotearoa, Land of a Long White Cloud, is one of the most magnificent places on Earth, yet it is not a common study abroad destination. I want to share my experiences studying for six months in New Zealand. I lived with a homestay family in an urban setting and attended the University of Auckland, I also spent a month traveling across the country. Based on my own transformation from a neuroscience geek to a rugby fanatic, this presentation guides you through the levels of rewiring your brain would have to complete to become a true Kiwi (New Zealander).

*Faculty Sponsor: Janet Miller*

**Paulius Kuprys '12, Biology**

*DeTRmination of an Essential Component for the Protection of Chromosomal TRmini in a Filamentous Fungus*

Chromosomal ends are protected by telomeres, which are synthesized by the enzyme telomerase. Telomerase consists of a protein and an RNA component (TR) that carries the template to elongate telomeres. No Telomerase RNA has been identified to date in any filamentous fungus. We used RT-PCR and other techniques to identify the TR of the filamentous fungus *Aspergillus oryzae* for the first time.

*Faculty Sponsor: Karen Kirk*

**Jennifer Kurtz '12, Chemistry, Environmental Studies**

*100 pptv level detection of hazardous air pollutants using SPME (solid phase microextraction) fibers with GC-MS detection*

This poster presents a new method for detecting hazardous air pollutants (HAPs) using solid phase microextraction (SPME) fibers. These fibers have a polymer coating that selectively traps volatile organic compounds for later analysis. Our method employs dynamic uptake of HAPs followed by analysis using gas chromatography and mass spectrometric detection. Previous work has shown calibration is possible for seven HAPs with detection limits below 100 pptv, well below the one-in-a-million cancer risk level for these pollutants. Current work evaluates additional complexities with sampling since variability in temperature and relative humidity is expected to affect efficiency of HAP uptake onto the fiber.

*Faculty Sponsor: Lori Del Negro*

**Elizabeth Ledger '12, French and International Relations**

*Outer Space and the Future of International Relations*

International relations scholars generally agree that unipolarity is the least stable structure of the international system and that the military hegemony of the United States will not last indefinitely. While rival nations in the twenty-first century will have a difficult time matching the military supremacy of the United States in the terrestrial "commons," outer space remains largely unregulated, making it an ideal environment for nations to effectively counter American power. The lack of clear American dominance in space allows nations with spacefaring technology, such as China, to compete with the United States in space, thus altering the unipolar power structure on earth.

*Faculty Sponsor: James Marquardt*

**Billy Levinson '13, Biology**

*Fungi as a Novel Source for Biofuels*

Biofuels present a sustainable alternative to conventional fossil fuels. Although much research has been devoted to cellulosic and algal biofuels, fungi, have been largely unexplored. We isolated and cultured 80 strains of filamentous fungi and yeast and examined their oil content by determining lipid content and composition. Two strains of yeast (*Rhodotorula auriculariae*) were found to have the highest levels of extractable lipids, and one fungus the least (*Fusarium avenaceum*). We evaluated the lowest and highest yielding isolates in order to determine the ideal growth medium for maximum oil yield.

*Faculty Sponsor: Lynn Westley*

**Megan Lieberman '12, Politics**

*Death Penalty: Nth Degree Murder*

My research examines the death penalty, targeting an anti-death-penalty audience. I argue that the death penalty is not an inappropriate punishment in all cases and thus should remain available for specific cases. I propose that states that have abolished the death penalty adopt the statute of 'Nth-Degree-Murder'. This classification of crime defines child homicide as the most heinous/egregious crime, which should be potentially subject to the death penalty. In the states that have eliminated the classification of "capital crime", Nth-Degree-Murder would reinstate a very narrow but necessary definition of capital crime.

*Faculty Sponsor: Debra Levis*

**Peter Lyford '12**, Latin American Studies and Spanish

*Richard Cheney: A Vice President in Control*

The role of the vice president has expanded since Walter Mondale, who held the office under Jimmy Carter. No vice president has been as influential as Richard Cheney, however. Instead of having a limited executive role, like vice presidents before him, Cheney was an instrumental part of the George W. Bush administration. His unethical policies cost the federal government tens of millions of dollars and forced various individuals to resign from their jobs. Cheney received little more than bad publicity. This presentation highlights Cheney's controversial actions and encourages individuals to question the authority of elected officials within the appropriate confines of democracy.

*Faculty Sponsor: Caroline Nordlund*

**Thandeka Mabuza '12**, Chemistry

*Suzuki Coupling of  $sp^3$  Carbon Centers*

The Suzuki reaction is a palladium-catalysed carbon-carbon bond formation reaction. Carbon-carbon bond formation is very important, especially in the synthesis of complex organic molecules for pharmaceutical research. The reaction has been shown to be most successful with cross-coupling of  $sp^2$  hybridised carbon centres. This investigation explores and expands on reactions of these alkyl substrates. Only para-substituted iodoaryls have been coupled so far with alkyl boronic acids. Primary alkylboronic acids were found to couple better with p-iodoaryls containing electron withdrawing groups and not at all with electron donating groups. Secondary alkylboronic acids do not seem to follow this cross-coupling trend.

*Faculty Sponsor: William Martin*

**Nicholas Makinster '15**, Asian Studies

*The Evolution of the Air War in Afghanistan*

This paper explores how, in Afghanistan, the air war has evolved to support the ground war, and how effective the air war has been in supporting the objectives of the ground war. The air war in Afghanistan can be broken down into three distinct phases: the initial invasion and traditional air war, the shift from traditional air engagements to COIN-centric air support, and the increase in drone activity and the build-up of the Afghan National Air Force. The lessons learned in Afghanistan can help the U.S. better plan for the future both in Afghanistan and in other irregular conflicts.

*Faculty Sponsor: James Marquardt*

**Nicholas Makinster '15**, Asian Studies

*A Losing Hand in the Great Game: British Military and Diplomatic Involvement in Afghanistan 1837-1842*

My thesis examines the first Anglo-Afghan War, particularly focusing on British diplomatic and military actions between 1837 and 1842. The British military incursion into Afghanistan marked the beginning of Afghanistan's modern military history, and should be regarded as an equally important event in the history of the British colonization of India. I also examine the experiences of everyday soldiers and utilize primary documents in creating a better understanding of why the British actors made the choices they did, and whether or not those decisions supported broader British political goals.

*Faculty Sponsor: Fatima Imam*

**Rhiannon Miller '14**, Communication

*Kids, Sex, and American Apparel: A Semiotic Analysis of American Apparel's Sexually Driven Advertising for their Line of Children's Apparel*

We have come to expect and in most cases accept the fashion industry's use of sex to sell clothing. American Apparel, an American-based clothing company, follows suit with this practice. What is unique about American Apparel and, consequently, gives us pause, is that the company's desire to promote sexual freedom is problematized by its use of children and adolescents to fulfill this agenda. Through semiotic study, this "Prezi"ation will explore how American Apparel's children's advertising directly correlates with the sexiness of their young adult advertising and why this is a problem.

*Faculty Sponsor: Rachel Whidden*

**Brendan Moss '12, Economics and Politics**

*The Invaluable Ability to Write in English Effectively, Even in a Spanish World*

This presentation is about my experiences working as a writer at the largest Spanish television network in the United States without knowing a word of Spanish. During the summer of 2011, I worked as a corporate strategy intern for Univision Networks. Catapulted into a truly foreign environment, I relied on the skills I developed as a student to make myself a valuable asset to an important team. My role as primary editor of several top-level projects allows me to highlight how the liberal arts skills I learned at Lake Forest College are essential in today's international corporate environment.

*Faculty Sponsor: Dawn Abt-Perkins*

**Yolanda Mseka '12, Anthropology and International Relations**

*Funeral Rituals in Malawi*

A traditional funeral ceremony is by far the most expressive and communal event in Malawian society. It is symbolically rich in social and cultural values, which may not be as evident in other traditional events. Besides providing a space to mourn and bid farewell to the deceased, a Malawian funeral ceremony serves to demonstrate and legitimize social roles and responsibilities, and negotiates changing social dynamics. I investigate the sociological and political statements made by funeral rituals in Malawi - themes of social health and social solidarity - and their implications on the nation-state.

*Faculty Sponsor: Holly Swyers*

**Amanda Muledy '13, English**

*The Moral and Aesthetic Value of Alice in Chains*

Most people would associate the 90s grunge band Alice in Chains with the Rolling Stones before they would with Aristotle's *Poetics*. But, after taking a class on aesthetics, I endeavored to find a place where philosopher and fan met. Is the band morally harmful, making Plato's cry for censorship justified? Does Alice in Chains' blend of Nietzsche's tragic elements indeed provide some safety, despite the intense experience a listener may have? I find that the maturity of the listener makes all the difference in which philosophers' ideas are backed by fan experience and which are not.

*Faculty Sponsor: Janet McCracken*

**Annabel Naditz '12, Biology**

*Role of Calcium and Phospholipase A2 in Regulatory Volume Decrease by American Alligator Erythrocytes*

Regulation of cell volume is an essential process for many biological functions and is especially significant when cells are exposed to anisotonic conditions. Volume can be regulated by a compensatory mechanism termed 'regulatory volume decrease' (RVD). Although many details of the RVD pathway are unknown,  $\text{Ca}^{2+}$  and the  $\text{Ca}^{2+}$ -activated enzyme phospholipase A2 (PLA2) appear to play a role. Our research shows that  $\text{Ca}^{2+}$ -influx is necessary for RVD and that there may be an optimal  $\text{Ca}^{2+}$  range. Additionally, our results are consistent with the activation of PLA2 due to an increase in cytosolic  $\text{Ca}^{2+}$ , thereby leading to RVD.

*Faculty Sponsor: Doug Light*

**Mary Nelson '12, Communication and French**

*The French Presidential Campaign*

My presentation includes a description of the different political parties in France heading into that country's April presidential elections. I survey the different front-runner candidates and, based on research or information collected during my tutorial on "French Politics in the News," I share my views on the candidates most likely to win the first round and to face each other in the run-off election in May. Some comparisons are made to the American presidential elections such as candidates' campaign styles, issues and topics discussed, and relations between France and the United States.

*Faculty Sponsor: Cynthia Hahn*

**Octavio Oliveira De Araujo '12, Environmental Studies**

*Exploratory and GIS-Based spatial analysis of rare plant species in the Chicago region*

Rare plants are a key component of biodiversity protection and knowledge of their spatial distribution is essential for conservation and decision-making. During my Summer 2011 internship at the Chicago Botanic Garden Plant of Concern (POC) Department, I worked on a Geographic Identification System (GIS) project that focused on the geographical distribution of two rare species of plants, Dog Violet (*Viola conspersa*) and White Lady's Slipper (*Cypripedium candidum*), in the northwest counties of Illinois. Through this project, I learned how to use plant monitoring data to create GIS maps for spatial analysis of the two rare species.

*Faculty sponsor: Kathryn Dohrmann*

**Guadalupe Ortega '13, Politics**

*Investing In All Our Children*

Voices for Illinois Children is a non-profit organization that focuses on implementing programs to ensure the full development of the child through public policy and advocacy. As an intern at Voices this semester, I am working closely with the assistant director of policy, who is currently helping to implement the Afterschool Youth Development Project Act throughout the state. This presentation highlights my work with Voices on this project. It also emphasizes the importance of "Investing in Opportunities for Children—Now," which is this year's theme for the Illinois Kids Count data book.

*Faculty Sponsor: Shelley Sherman*

**Samantha Parkison '12, Art History and English (Writing)**

*Martyrdom of the Female: Ana Mendieta's Perspectives on Religious Symbolism in a Feminist Context*

In the late 1970s, visual artist Ana Mendieta provocatively incorporated elements of Roman Catholic iconography into her work as a way of creating a larger, symbolic statement on the status of feminism. Mendieta produced art heavily laden with Catholic symbols of martyrdom, exile, and death, which through her art translate into a further reading of feminist thinking, namely, martyrdom as a female condition of experience. By clarifying the connections between Catholic symbolism and feminist thinking in Mendieta's artwork, my paper reformulates an understanding of identity – sexuality, the body, and gender – in Mendieta's art as a whole in the heady context of the seventies.

*Faculty Sponsor: Miguel deBaca*

**Kylie Radjenovic '12, Business and Communication**

*Visual Rhetoric: Diamond Engagement Rings and its Significance in the Modern World*

Diamond engagement rings became popular in the 1930s. Since then, diamond rings have become an integral part of the engagement ritual. Why did this occur? In part, through the visual rhetoric of DeBeers Diamond Company's advertising campaign.

*Faculty Sponsor: Rachel Whidden*

**Joseph Randol '12, Politics**

*The Fall and Rise of Chicago Public Schools*

In 1987 the Chicago Public Schools (CPS) were declared "the worst in the nation." At the time, CPS had been independent, but in 1988 the Illinois General Assembly handed over control to the mayor. This project investigates the pre-1987 educational policies and practices that brought CPS to its nadir and the reforms that have been made since then, under the direction of the mayor, to reverse the direction of Chicago's failing school system.

*Faculty Sponsor: Caroline Nordlund*

**Ashley Reich '13**, Biology and Neuroscience

*Co-regulation of miRNA biogenesis and pre-mRNA alternative splicing*

MicroRNAs (miRNAs) regulate gene expression by targeting mRNAs for degradation. More than 50 percent of miRNAs are located within protein-coding host genes and an estimated 95 percent of pre-mRNAs are alternatively spliced to produce different mRNA isoforms. The relationship between miRNA biogenesis and pre-mRNA alternative splicing has not been widely studied. We hypothesize that these processes are co-regulated and that changes in either pathway will affect the other. We altered both pathways and our results suggest that miRNA biogenesis and host gene splicing are co-regulated, and could provide a mechanism to regulate gene expression of miRNA target genes and miRNA host genes.

*Faculty Sponsor: Shubhik DebBurman*

**Saajidha Rizvydeen '12**, Biology

*Genetic Manipulations in a Fungus: Construction of a Telomerase RNA Knockout*

Telomeres are found at the ends of linear chromosomes, ensuring the complete transmission of genetic information to future generations. Telomere length is regulated by the enzyme telomerase, a complex of a protein (TERT) and an RNA component (TR). TR contains the template region that is used to synthesize telomeric repeats, TTAGGG, found in most mammals and in our model organism—*Aspergillus nidulans*. We knockout a potential TR template and hypothesize that this mutation results in phenotypic deficiencies due to accelerated senescence. Fusion PCR is used to synthesize a DNA construct that, transformed into fungal cells, is integrated into the genome.

*Faculty Sponsor: Karen Kirk*

**Erika Rodriguez '12**

*Agricultural Processes and Perspectives at Lake Forest College, Within the Context of the Societal Movement towards Sustainable Food*

In the spring of 2010, members of the Lake Forest College community broke ground to create a sustainable garden on campus. In an effort to understand how the inclusion of the garden affected the awareness of food in our community, I carried out a qualitative, sociological study in the spring of 2011. This presentation reviews the purpose, methods, and findings of my study, and places them within the context of a growing movement towards sustainable food practices nationwide.

*Faculty Sponsor: Holly Swyers*

**Rachiny Samek '12**, Philosophy and Politics

*Islam: the Question of Democracy in Turkey and Iraq*

On the assumption that democracy is the best form of government for any Muslim-majority state, I examine the suitability of liberal democracy and communitarian democracy. Looking at the history of Islam, there seems to be a greater compatibility with communitarianism; however, with the introduction of nationalism to majority-Muslim states, certain aspects of liberalism also seem to be compatible. I analyze liberalism and communitarianism in practice, using Turkey as an example of a functional democracy and Iraq as examples of a developing democracy.

*Faculty Sponsor: Steve Tammelleo*

**Ada Sandoval '14**, Sociology and Anthropology

*Dietary Reconstruction of Pleistocene Megafauna*

Analysis of the chemical makeup of the bones of extinct Pleistocene (10-20,000-year-old) megafauna allows for the reconstruction of diet and local environmental characteristics. We present the results of stable isotope analysis of bone and tooth samples from four South American megafaunal taxa (three herbivorous and one carnivorous). Comparison of these results with previously published data from similar taxa reveals intriguing differences in dietary habits and animal habitat. These data provide an exciting insight into the environment of South America at the time of the arrival of the earliest human settlers.

*Faculty Sponsor: William Pestle*

**Cynthia Sandoval '12**, International Relations and Politics  
*The Future of Peace: Great-power Politics in the Twenty-first Century*

This project investigates the near-term future of international politics, focusing on relations among the world's most powerful countries - the U.S., China, Russia and the European Union. Utilizing structural realist theory, I argue that the structure of the international system will revert to the pre-Cold War model of multipolarity. Hence relations among the great powers will be more competitive and less predictable compared to great power relations during the Cold War. Yet the nuclear deterrence regime means that the emerging multipolar system will not be accompanied by a return to the instability and turbulence that characterized international politics in past centuries.

*Faculty Sponsor: James Marquardt*

**Madhavi Senagolage '12**, Biology  
*Complex degradation of Parkinson's disease protein,  $\alpha$ -synuclein, by endocytosis*

Parkinson's disease (PD) results from impaired recycling and increased accumulation of the brain protein,  $\alpha$ -synuclein. Therefore, accelerating  $\alpha$ -synuclein recycling is of therapeutic interest. Previously, our lab found genetic evidence for endocytosis as one of several pathways that regulates  $\alpha$ -synuclein's complex recycling by the lysosome. However, we had not yet analyzed this pathway's final step (post-ESCRT). In a yeast PD model, I add new genetic evidence that this step regulates  $\alpha$ -synuclein toxicity. Furthermore, when genetic and chemical forms of lysosomal inhibition were combined, it worsened  $\alpha$ -synuclein toxicity. Taken together, my thesis studies strengthens the hypothesis that impaired recycling contributes to PD.

*Faculty Sponsor: Shubhik DebBurman*

**Thomas Sipp '13**, Philosophy and Religion  
*Gnosticism and Heresy: Christology and Pop Culture*

The success of movies like "Stigmata" and "The Da Vinci Code" has renewed interest in alternative Christianities. Since the discovery of the "Gospel of Thomas," many people have turned to controversial views regarding Christ's nature and his ministry. Most people, however, remain misinformed on the implications of The Gnostic Gospels and the portrait of Jesus they represent. This presentation focuses on the true philosophical implications of a Gnostic Jesus, especially for Christology, and how Gnosticism challenges contemporary Christian belief systems.

*Faculty Sponsor: Raj Nadella*

**Caitlin Smith '12**, Asian Studies, Economics  
*New Perspectives: A Social and Economic Analysis of China's Rural Development*

Rural China is often overlooked when outsiders consider China's economic achievements. Rural markets are under-developed relative to larger urban markets, which lead to differences in rural and urban job opportunities and income levels. This presentation focuses on legal, social and economic research regarding the development of property rights and land lease markets in China. Current literature has failed to recognize that diversity throughout China requires a balance of practical economics and politics to solve China's rural development problems and alleviate migratory pressures on China's urban centers.

*Faculty Sponsor: Kent Grote*

**Jennifer Sojka '13**, Biology  
*Factors that affect the repeatability of personality in yellow-bellied marmots, *Marmota flaviventris**

Animal personality is becoming increasingly relevant in ecology because of its effect on reproductive success. Measuring personality can be difficult because many factors affect how an animal responds to tests. Using novel object tests to measure exploration and a flight initiation distance test to measure boldness, we quantify which variables significantly affect individual responses in a population of yellow-bellied marmots. Although we could not demonstrate habituation over time to the tests,



other significant factors, such as age class and location in the valley suggest that the marmots may already be habituated to humans.

*Faculty Sponsor: Sean Menke*

**Angela Spoto '12**, Business and English

*Comic Book Writing: Script, Art, and All Things in Between*

What's the difference between a comic book and a graphic novel? Who is involved in creating a comic book? What does a comic book script even look like? Inspired by her own personal experiences writing a graphic novel script for her senior thesis, Angie Spoto presents "Comic Book Writing: Script, Art, and All Things In Between," in which she discusses the entire comic creating process and clears up common questions and misconceptions about sequential art.

*Faculty Sponsor: Tracy McCabe*

**Sarah Spoto '12**, Business and Studio Art

*Business as Empowerment: The Uncovered Artistry Project and the Positive Power of Business*

This presentation discusses my experience founding the non-profit Uncovered Artistry Project, which is made possible by a grant from Projects for Peace and the support the Lake Forest College community. The Project was created on the belief that businesses can be a means of social empowerment. After years of scandal stories, bailouts, and tough economic times, many have lost their trust in the private enterprise system. The Project shows that businesses can be used to empower others. Viewers are encouraged to think about the positive power of business through an examination of the Project.

*Faculty Sponsor: Heather Brown*

**Jennifer Steege '13**, Communication

*The Identity of Women in America: Nike Women and Women's Athletics*

The division between men's and women's sports created gender inequality that Title IX supposedly addressed. But have we really reached an era where women's and men's athletics are equally respected? Nike athletic wear company's 2011 advertisement campaign titled "Make Yourself," underscores the different status of women's athletics in America today. Through a semiotic analysis of this campaign we can observe Enlightened Sexism and Embedded Feminism at work, in disrupting women in their athletic pursuits and delaying advancements toward a gender neutral society.

*Faculty Sponsor: Rachel Whidden*

**Kaila Stephens '13**, Biology

*Knowledge: A Key to Supplement Adherence in Pediatric Inflammatory Bowel Disease*

This study summarizes rates of adherence to different supplements taken by adolescents with Inflammatory Bowel Disease, examines their knowledge about supplements, and determines whether more sophisticated knowledge predicted better adherence. It is hypothesized that the knowledge of children is poor about the kind of supplement they are taking and that more sophisticated knowledge is associated with better adherence. The children's supplement adherence, as well as knowledge of their supplements, was measured using the Medical Adherence Measure. Adherence rates were examined for Calcium, Vitamin D, Multivitamin, and Iron. 53 adolescences participated in the study. Each child completed seven monthly follow-ups via phone.

*Faculty Sponsor: Lynn Westley*

**Peter Sullivan '12**, Biology and Chemistry

*Evidence for enzyme dysregulation in L-DOPA treated Parkinsonian rodents*

Parkinson's disease (PD) is a devastating neurodegenerative disease resulting in impaired movement. Currently, the standard treatment for PD aims to replace dopamine via L-DOPA administration. This treatment often causes equally debilitating symptoms, termed dyskinesias, however. Recently, decreased cGMP signaling has been noted in dyskinesias, suggesting a possible target for therapy. This study sought to measure the activity of a cGMP regulatory pathway involving neuronal nitric

oxide synthase (nNOS) in a rat model of PD and dyskinesia. Our results reveal a decrease in nNOS activity, which correlates to the decrease in cGMP and with behavioral correlates of dyskinesias.

*Faculty Sponsor: Shubhik DebBurman*

**Farzeen Tariq '12**, International Relations  
*Geopolitics of US, Pakistan and Afghanistan*

This presentation explores how US-Pakistani-Afghani relations have shaped the geopolitics of South-Central Asia since 1950. It considers the political and strategic forces that brought governmental and non-governmental groups in the three countries together during the Cold War and how, since the end of the Cold War, relations among the three countries have faltered in ways unimaginable twenty years ago. Each country has a major stake in ending armed conflict in the region, and yet the three have been unsuccessful at working together to end insurgencies and improving regional stability and security.

*Faculty Sponsor: James Marquardt*

**Caroline Tibbetts '12**, Communication and French  
*What's Your Number? A Study on the Omnipresent Sexual Double Standard within American Society*

I present the research I conducted in fall semester for my Communication Senior Independent Project. Considering a brief clip from the film "What's Your Number," I open the discussion of sexual double standards in contemporary American society. I highlight some of the origins of the double standard and then present my findings, which are based on anonymous interviews and surveys I conducted. The presentation also considers the repercussions of the double standard on society, specifically in what I would call the "hook-up" culture in contemporary America.

*Faculty Sponsor: Devorah Heitner*

**Mehmet Ugurbil '13**, Mathematics and Physics  
*Chaos*

I introduce the concepts of iteration, nonlinear graphs and chaos in Chaos Theory, discuss the Tent Family and Quadratic Family of functions and the advanced ideas of cantor set and fractals, and analyze orbits and chaos in simple games and evolutionary games.

*Faculty Sponsor: Edward Packel*

**Nicole Vachter '13**, Biology and Environmental Studies  
*Change and Challenge: My Time in Australia*

This presentation is an account of my time studying abroad at James Cook University in Townsville, Queensland, Australia, and how that experience changed my outlook and affected my plans for the future. My time and experiences in Australia fit into two main categories, change and adventure in both personal and professional matters. In the presentation, I also explore why students should study abroad during their college years.

*Faculty Sponsor: Janet Miller*

**Nicole Vachter '13**, Biology and Environmental Studies  
*Garrick Players Present a 24-Hour Playwright Festival*

Garrick Players pride themselves on being a diverse group. In doing the 24-Hour Playwright Festival we hope to showcase some unknown talent of Lake Forest College. Our goal is to have at least two teams of people, writing, directing and acting in their own fractured fairy tales (personal spins on favorites like Cinderella, three little pigs, etc). Starting the Friday before Symposium through Saturday, the groups will be writing, rehearsing and perfecting their performances. What we would like to include in Symposium is the combination of all of the hard work in the actual performances of the festival.

*Faculty Sponsor: Chloe Johnston*

**Aleda “Jordyn” Varga ’13**, French and Psychology

*Paris: My Classroom*

This presentation is a reflection on my experiences, last fall, in LFC's off-campus program in Paris. I first consider my expectations about going abroad. I then address my responsibilities and the challenges I faced as an intern and how my internship shaped my experience in Paris. Finally, the presentation looks at every-day life with my host family and my academic studies, and how each enhanced my internship experience. The goal of the presentation is to assist other students in their preparations to intern, live, and study abroad.

*Faculty Sponsor: Cynthia Hahn*

**Ryan Vlaar ’14**, Biology and Environmental Studies

*The History, Politics, and Economics of Cotton's Social Ascendancy*

Plants perpetuate the world of men. From the quintessential cup of coffee to the ethanol that powers cars, humans have achieved extraordinary success in cultivating crops. I examine the reciprocal process - the imperialism of humanity from a botanical perspective. Cotton has monopolized the realm of human clothing and has enormous influence on the economic and political spheres of an international world. This talk raises unanswered questions about cotton's hegemony of the globe through human social structures.

*Faculty Sponsor: Glenn Adelson*

**Chris Way**, Politics

*Race and Proposition 8*

In November of 2008, Proposition 8 passed in a state-wide referendum in California, making same sex marriages illegal. After looking at voting patterns, it becomes clearer that the African American community played a significant role in the passage of this bill, which raises the question: Why did the African American community vote strongly in favor of Proposition 8? I argue that high rates of religiosity, lack of education, and family practices together have the effect of fostering homophobia among African Americans, which expressed themselves in the strong support African Americans gave to Proposition 8.

*Faculty Sponsor: Caroline Nordlund*

**Qiong Wu ’13**, Mathematics and Philosophy

*The crusades as just wars and as pilgrimages*

The First Crusade was the most successful practice of the medieval Christian church in encouraging religious passion from all social classes. It was essentially built from two major concepts, namely, the crusades as just wars and the crusades as pilgrimages. This paper introduces the theoretical and practical development these two concepts in Europe, and discusses the question that how the idea of pilgrimage complemented and conflicted with the idea of just war in papal recruitment for the crusade. The discussion is based on five versions of the speech of Pope Urban II at the Council of Clermont in 1095.

*Faculty Sponsor: Jilana Ordman*

**Winta Yohannes ’15**

*Arab-American Racial Identification*

After the Chinese Exclusion Act of 1882 was lifted, the first large wave of Arabs, mainly consisting of Syrian and Lebanese Christians seeking professional job opportunities, migrated to the United States. Since America historically used whiteness as a precondition for citizenship, the immediate classification of Arab Americans as “white” gave them an advantage over other immigrant groups. The privileges of a white legal status help them assimilate into the white middle class, almost unnoticed. Since 9/11, however, Arab Americans have become second-class citizens, which forces us to question if this will lead to a new politicized identity in American politics.

*Faculty Sponsor: Caroline Nordlund*

**Maria Zawadowicz '12, Chemistry and Physics**

*Measuring excitation probabilities of a two-state system using pulsed NMR*

The quantum-mechanical two-state system is a useful, simple model to describe several physical phenomena, such as the absorption and emission of radiation by atoms, or nuclear magnetic resonance (NMR). The equations that govern the behavior of a two-state system when it is subjected to a long pulse of electromagnetic radiation can be solved only approximately. If pulses only a few cycles in length are used to excite the system, however, the usual approximations no longer work at all. The goal of this project is to create experimental conditions under which new theoretical approaches to this problem can be tested.

*Faculty Sponsor: Michael Kash*

**Minxu Zhang '12, Economics**

*Public policy, contracts and organic farming*

Moral hazard, coupled with imperfect information and technology cost, affects the availability and quality of farming products, specifically organic products. This study investigates potential solutions to this problem. First, a contract theoretical model is presented and the equilibriums are analyzed. The preliminary result shows that technology cost of producing under severe weather determines the existence of sub-game perfect equilibriums. Second, using U.S. data at state level, I look at the relationship between public policy, such as government expenditure. The preliminary result shows that states with more eco-friendly policies tend to have larger organic acreage and sales.

*Faculty Sponsor: Robert Lemke*

**Sandra Aguilera**

**Akua Agyei**

**Antonio Avila**

**Divya Banerji**

**Lois Barr**

**Katherine Bjelde**

**Miguelangel Gonzalez**

**Clayton Gray**

**Tobi Greenwald**

**Cynthia Hahn**

**Jana Hengstler**

**Yipeng Hu**

**Jee Kim**

**Kevin Lim**

**Thandeka Mabuza**

**Elisabeth Pattavina**

**Hope Snediker**

**Rose Twagirumkiza**

**Alexandra Zaas '14, Politics and Sociology**

**Eileen Zuniga**

*Collage Readings*

*Collage* is the College's foreign language literary magazine. A select number of *Collage* contributors read their work in this panel, and some art and photographs from the magazine are exhibited. There is also a reading of Michelle Rosales's poem, "Oda a una rosa," which Michelle submitted her freshman year at Lake Forest. At the conclusion of the reading, *Collage* is launched in electronic version on the Lake Forest College website.

*Faculty Sponsor: Gizella Meneses*

**Haider Albassam**

**Rakahn Al-Mutawa**

**Emma Douglass**  
**Matthew Evans**  
**Tyler Haberman**  
**Elizabeth Hyzy**  
**Samantha Kaser '15**

*THTR 226 Presents: An Improvisation Showcase by "Kickass Book Club"*

We perform a type of long-form improvisation called the Harold, which is a series of nine related scenes broken up by improv games. This performance showcases various important practices of improv including agreement, listening, and the use of the group mind. By utilizing these principles and with a semester of practice under our belts, we promise our audience a most entertaining performance.

*Faculty Sponsor: Richard Pettengill*

**April Arellano**  
**Alexandra Beer '15**

**Mia Tahee Kim '12**, International Relations and Philosophy  
*International Criminal Court*

Developed by treaty, the International Criminal Court (ICC) was established by the international community to address serious crimes, such as genocide, war crimes, and crimes against humanity. The ICC is an independent organization that seeks to hold individuals accountable and, by doing so, deter such crimes in the future. Through an analysis of current cases including Libya and Cote d'Ivoire, LFC's Amnesty International student group clarifies the functions of the ICC and examines the importance of greater United States support and involvement in this international institution.

*Faculty Sponsor: Lou Lombardi*

**Chris Banville**  
**J. J. Conoscenti, President**  
**Dillon Gilbow '13**, Chemistry

**Ivaylo Valchev**  
*Lambda Chi Alpha's 3rd Annual Quiz Bowl*

Our annual event at the Symposium is an open team competition to raise money for charity and test the general knowledge of the contestants, who are members of the Lake Forest College community. There are six rounds of trivia questions with varying degrees of difficulty. This competition is open to anyone on campus, both students and faculty.

*Faculty Sponsor: Janet McCracken*

**Maya Beckles '13**, Sociology and Anthropology and Theater  
**Hailee Pavisich**  
**Erika Rodriguez '12**, Sociology & Anthropology, Environmental Studies  
**Steffany Sobieraj**

*Haere Mai Aoteroa Foresters! (Welcome to New Zealand Foresters!)*

This presentation focuses on our experience as the first group of Foresters studying abroad on Lake Forest's New Zealand Program. In our individual and collective accounts of the events and experiences, opportunities and unexpected adventures that characterized our time in Aotearoa, we will discuss how it influenced and impacted our lives as students in the liberal arts. We draw particular attention to the broad range of possibilities across a spectrum of interests for study abroad in New Zealand. As the inaugural group for this program, we hope to share how the program has changed our outlook on life and scholarship.

*Faculty Sponsor: Alex Mawyer*

**Maya Beckles '13**, Sociology and Anthropology and Theater

**Jody Buck '13**, English and Neuroscience

**Cleo Hehn '13**, Studio Art

**Maria Zawadowicz '12**, Chemistry and Physics

*Peer Training: Guiding, Mentoring, and Evaluating Peers in the Writing Center*

Becoming a Writing Center tutor is a growth experience for trainees and the more experienced peers who train them. To be good tutors, trainees need to develop their knowledge base, skills, and dispositions about writing and learning. Experienced tutors, serving as Training Assistants, develop processes to guide trainees toward these goals. In this panel, Training Assistants reflect on giving feedback to peers, helping peers understand stages of the training process and their progress through it, and identifying benchmarks to inform evaluation of trainees. They also share what they have learned from their commitment to this leadership role on campus.

*Faculty Sponsor: Dawn Abt-Perkins*

**Jody Buck '13**, English and Neuroscience

**Lani Leong**

*Will sea slugs recover after surgical injury?*

The marine gastropod *Aplysia californica* is an ideal organism for neurophysiological research because of its large, easily accessible ganglion. *Aplysia* also exhibit two types of locomotion: normal locomotion (crawling) and escape locomotion (galloping), which have not been well studied or defined in past literature. In this study, these two types of locomotion were qualitatively and quantitatively measured for comparative purposes. The cerebropleural connective was then surgically crushed in order to eliminate escape locomotion, while still leaving crawling in-tact (Jahan-Parwar & Fredman). Escape locomotion was recovered post nerve crush indicating the ability of nerve fibers to recover and reestablish connections.

*Faculty Sponsor: Shubhik DebBurman*

**Jody Buck '13**, English and Neuroscience

**Sydni Cole '12**, Neuroscience

**Kristina Johnson '12**

**Sajan Koirala '13**

**Natalie Kukulka '13**, Biology and Neuroscience

**Ashley Reich '13**, Biology and Neuroscience

**Anneliese Szutenbach**

*BIO 346*

**Roksana Birkos**

**Kambrea Farley**

**Michael Herriges**

**Gregory Jamieson**

**Taylor Jones**

**Yan-Liang Lin**

**Samuel Mercier**

**Jacqueline Meyer**

**Amanda Morais**

**Eddie Moravac**

**Jonathan Vinkavich**

**Stefan Zaharinov**

**Omid Saleh Ziabari**

**Amy Ziemis**

*BIO 130*

**Kayla Ahlstrand**

**Nicolette Yeomans '14**, Neuroscience and Psychology

*Peer Teachers*

*Exploring Medical Mysteries of the Human Brain*

Students of BIO 130 Deadly Shapes, Hostage Brains and BIO 346 Molecular Neuroscience invite members of the college community to discover fascinating aspects of the function and dysfunction of our human nervous system. BIO 346 mentors and BIO 130 mentees collaborated in small groups to create multimedia exhibits that extend textbook knowledge to cutting-edge biomedical mysteries by integrating research poster presentations with human brain anatomy, physical models, hands-on activities, and cellular microscopy. The BIO 130 exhibits focus on three neurodegenerative diseases (Alzheimer's, cerebellar ataxia, and Huntington's disease), while the BIO 346 exhibits focus on plasticity, sex/sexuality, sleep/wakefulness, and language/speech.

*Faculty Sponsor: Shubhik DebBurman*

**Tara Busse**

**Kaya Cuper**

**Sonam Deki**

**Lauren Sanford**

**Alexandra Zaas '14**, Politics and Sociology

*Green Building: Trials and Triumphs*

This presentation on "Green building" explores what it means to be green and sustainable. Green building (also known as 'green construction' or 'sustainable building') is the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle—all the way from the design through the construction and operation, carrying on through the maintenance. We will discuss how green building benefits the environment and the basic cycle of a green building.

*Faculty Sponsor: Donald Stanley*

**Qi Chen '14**, Finance

**Ariana Rincon '14** Finance

*Expanding Access of Financial Services through Formal and Informal Linkages*

In spite of significant improvements in microfinance activities, the supply of financial services in rural areas is still limited due to high costs and risks. To overcome these restrictions, many microfinance institutions (MFIs) have established linkages, or mutually beneficial partnerships, with the formal financial sector to expand access of financial services among rural populations. In this context, the emergence of informal institutions linking to commercial and traditional banks has improved the rural financial infrastructure, including better access to capital and improved product quality for informal financial institutions.

*Faculty Sponsor: Les Dlabay*

**Qi Chen '14**, Finance

**Ariana Rincon '14** Finance

*Loan or Grant ? Microfinance Activities: A Market Approach to Sustainable Community Development*

A significant gap exists in the availability of formal and informal financial services between developing economies and industrialized countries. This dispersion creates financial exclusion, unemployment, and poverty. Unlike grants, microfinance activities have the potential to bridge this gap through a market approach. For people living on \$2 or less a day, loans from microfinance institutions (MFIs) can build business activity and create a sustainable community economy.

*Faculty Sponsor: Les Dlabay*

**Sydni Cole** '12, Neuroscience  
**Leah Frenette** '12, Chemistry and French  
**Ryan Gabriel** '12, Chemistry  
**Jennifer Kurtz** '12, Chemistry and Environmental Studies  
**Thandeka Mabuza** '12, Chemistry  
**Tom Pospiech**  
**Maria Zawadowicz** '12, Chemistry and Physics  
*Flames, Fumes and Flashes: Students Fired Up About Chemistry*

The members of the Lake Forest College Student Affiliates of the American Chemical Society (SAACS) are nationally recognized as an award-winning chapter because of their continuing commitment and involvement in the community. SAACS demonstrates central chemical principles through a series of attention-grabbing experiments, including freezing roses with liquid nitrogen, explosive hydrogen balloons, and a colorful ammonia fountain.

*Faculty Sponsor: Elizabeth Fischer*

**David Curie**  
**Garrett Donnelly**  
**Huy Hoang**  
**Kosova Kreka** '12, Economics and Physics  
**Michaelangelo Monterroso**  
**Matthew Morrison**  
**Anthony Valsamis**  
*Physics Gone Wild*

The Society of Physics Students (SPS) introduces some of the wonders of the physical world through fun and interactive demonstrations, including levitating objects, dancing flames, giant sparks, sonic booms and more. Familiarize yourself with the world of physics through these fun demos.

*Faculty Sponsor: Scott Schappe*

**Sebastian Di Clemente** '13, Environmental Studies  
**Diana Conde Moure**  
**Laura Stahl**  
*The Lake Effect Environmental Archive*

Lake Effect (Island Press, 2008), a memoir by Nancy Nichols, recounts a childhood in Waukegan during an era when Waukegan Harbor was polluted with toxic substances. It also describes Nichols' (and her sister's) experiences with cancer, and explores the possibility that these might have environmental origins. The Lake Effect Environmental Archive project began in early 2011, when Nichols donated her research materials to Donnelley and Lee Library. Student archivists have been central to this project. Come learn more about Nichols' powerful story and the College's unique opportunity to archive these materials—there's a lot more to archiving than you think!

*Faculty Sponsors: Kathryn Dohrmann and Arthur Miller*

**Sebastian Di Clemente** '13, Environmental Studies  
**Victoria Jones** '13, Environmental Studies  
*The Elizabeth T. Lunn Herbarium of Lake Forest College (1848-present); managing and digitizing historic plant specimens so as to support a plethora of scientific studies—conservation efforts in particular*

A herbarium is a stored collection of pressed, mounted, and classified dried plants. The Lake Forest College Herbarium houses more than 3,700 plant specimens, most of them dating from the turn of the twentieth century. This old practice of collecting specimens now intersects with modern technologies, making our herbarium invaluable to studying the changes in the region's flora. I am responsible for digitizing the collection for students, the research community, citizen scientists, and the public. This



archival work is the basis of my senior thesis research, which consists of collecting modern day specimens and comparing them to their pre-1960s counterparts.

*Faculty Sponsor: Sean Menke*

**Joel Gard '12**, Economics

**Alex Gilbert '12**, Environmental Studies and International Relations

**Kristina Rodriguez**

*Enhancing Sustainability at Lake Forest College*

Three Environmental Science seniors discuss strategies they have identified for improving sustainability on campus. Joel Gard is working on how to bring a sustainability director to campus and how that position could pay for itself through programs that create net savings for the school. Kristina Rodriguez is documenting the past, present, and future of the campus garden to help guide future caretakers. Alex Gilbert is conducting an energy efficiency assessment to quantify how much the college could save by implementing efficiency practices.

*Faculty Sponsor: Glenn Adelson*

**Amy Gonzalez '12**, International Relations and Sociology

**Jimena Resendiz**

*Dying Along the Way: Stable Isotope Analysis of Pre-Columbian Human Remains from the Atacama Desert*

Numerous routes connected northern Chile's coast to the interior in pre-Columbian times. In recent years, skeletal remains have been excavated along these routes documenting a long history of interaction between the areas. Stable isotope analysis of the remains reveal evidence indicative of two-way movement with both coastal and interior populations moving along these prehistoric routes. These data show that despite formidable natural barriers (high mountains and the hyper-arid Atacama Desert), interaction and trade was more common in this area than one might expect.

*Faculty Sponsor: William Pestle*

**Mariana Green**

**Mia Taehee Kim '12**, International Relations and Philosophy

**Ayden Lopez**

**Raghav Murali**

**Alex Steele**

*A Dramatized Reading on Legal Obligation*

A dialogue on legal obligations will come to life through a theatrical reading starring Socrates (Mariana Green 14'), Captain Vere (Alex Steele 15') from Herman Melville's *Billy Budd*, Tom Doniphon (Ayden Lopez 15') from 1962 film *The Man Who Shot Liberty Valance*, and Chigurh (Raghav Murali 12') from Cormac McCarthy's *No Country for Old Men*. The conversation will come to a dramatic ending in deaths by water gun. The audience should prepare for intellectual stimulation and expect comedic twists to philosophical inquiries.

*Faculty Sponsor: Lou Lombardi*

**Nadia Gronkowski '14**, Environmental Studies

**Jennifer Kurtz '12**, Chemistry and Environmental Studies

**Kristina Rodriguez**

**Ryan Vlaar '14**, Biology and Environmental Studies

*The Viability of Sustainability: Lake Forest College's current environmental initiatives as indicators of its potential as a sustainable community*

There are more student-led environmental initiatives currently than perhaps at any other time in Lake Forest College's history, and each contributes to other initiatives that link the College community to the larger, global environmental movement. Students from each of the main co-curricular environmental projects on campus - LEAP (the League for Environmental Awareness and Protection), the Green Roof Committee, the Slow Food Club, and the campus garden - discuss their

accomplishments during the 2011-2012 school year and share their thoughts on whether Lake Forest College is on its way to becoming a sustainable community.

*Faculty Sponsor: Glenn Adelson*

**Cleo Hehn '13**, Studio Art

**Madeeha Khan**

**Anica Lin**

*Printmaking: Exploring New Frontiers*

Offered this semester for the first time in years, Lake Forest College's printmaking course teaches intermediate-level art students the skills and techniques for making relief, intaglio, and screen prints. These techniques descend from a rich history, yet they inform the art-making practices of students and artists in the professional world today. Students discuss both the history and the contemporary relevance of printmaking, and they recount first-hand experiences in this course, share their own products and prints, and discuss the ways in which their newfound knowledge of printmaking techniques has influenced their identities as artists.

*Faculty Sponsor: Tracy Marie Taylor*

**Victoria Jones '13**, Environmental Studies

**Catherine Masek '13**, Master of Liberal Studies

**Jennifer O'Conner**

**Ellen Shipitalo**

*Reflections on the New Nature Writing by New Writers*

Four students from different disciplines reflect on this year's Literary Festival topic, the New Nature Writing, in an open panel discussion. Each student presents his or her experience at the festival events, including interactions with the four environmental writers—Mark Spitzer, Ed Roberson, Brenda Iijima, and John Elder, and discusses how it impacted and enhanced his or her academic pursuits. The panelists engage the audience in a communal brainstorm to address environmental issues, emphasizing the necessity of conversation for conservation, and seeding the need for community building and action, using writing to initiate the dialogue.

*Faculty Sponsor: Joshua Corey*

**Eddie Kristin**

**Russell Pfeiffer**

**Kramer Steffens '12**, International Relations

*Symposia: Ancient Greece to LFC*

At the Student Symposium, students display their knowledge and take an opportunity to share a piece of their college experience with others. But what exactly is a symposium? From whence does the idea of the symposium stem? What is the importance or intention of a symposium? How does what students are doing on the day of the symposium connect with the Ancient Classical Greek model? We aim to bridge symposia of Ancient Greece to the 21st Century by exploring firsthand accounts of time spent studying abroad in Greece, and examining ancient inscriptions such as "Everything in moderation" and "Know thyself."

*Faculty Sponsor: Janet Miller*

**Natalie Kukulka '13**, Biology and Neuroscience

**Ryan Vlaar '14**, Biology and Environmental Studies

*Decrypting Parkinson's disease: Are multiple mutants worse than one?*

Genetic mutations account for 10 percent of familial Parkinson's disease (PD) cases. The best-studied PD-causing is  $\alpha$ -synuclein (and its amino acid mutants are A53T, A30P and E46K). Each mutant distinctively affects  $\alpha$ -synuclein's localization, aggregation and cell survival properties, indicating each amino acid's strategic importance. We hypothesize that combining mutations will blend the individual mutant properties and lead to higher toxicity and tested this in fission yeast and budding yeast.

Surprisingly, we find one mutant (A30P) dominated over the other two in controlling  $\alpha$ -synuclein localization in both organisms. Moreover, the combination of mutations did not add to cellular toxicity in either organism.

*Faculty Sponsor: Shubhik DebBurman*

**Tzi-Ching Lin**

**Katlin Sandvik**

**Caroline Stearns '12**, Biology and Studio Art

*Student Artist Panel Discussion*

This panel explores the inspirations and ideas behind the senior thesis exhibitions of Katlin Sandvik and Caroline Stearns and the artwork of Anica Lin. Stearns' artwork is informed by biology, specifically exploring ways to communicate the effects of human interaction on the natural world. Sandvik uses abstract animation to communicate the inner life of the Little Mermaid from Hans Christian Andersen's famous fairy tale. Lin is exploring magazine layout and design; in magazines, design and text merge into an attractive and interesting combination to portray our modern life.

*Faculty Sponsor: Tracy Marie Taylor*

# 15 TH ANNUAL STEVEN GALOVICH MEMORIAL STUDENT SYMPOSIUM APRIL 10, 2012

## Symposium Committee:

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**T.R. Bell**

Director of Campus and Conferences

**Karen Blocker**

Academic Technology Specialist

**Ananya Das**

Assistant Professor of Mathematics

**Harriet Doud**

Department Supervisor

**Kent Grote**

Assistant Professor of Economics

**Faye Kelley**

Director of Special Events

**Rita Koller**

Associate Librarian

**James Marquardt**

Associate Professor of Politics

**Janet McCracken**

Professor of Philosophy

**Lindsey Nemcek**

New Media and Marketing Coordinator

**Tracy Taylor**

Assistant Professor of Art

## Special Thanks

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Aramark

Library and Information Technology

Tracy Taylor's Digital Design Foundations class

Student Government

Visual Communications

Umoja